Title (en)

Friction stir welding load confirmation system with a load cell and a rotatable ball

Title (de)

Reibrührschweiss-Kraftbestätigungssystem mit einem Kraftmesszelle und einer drehbaren Kugel

Title (fr)

Système de validation de chargement pour le soudage par friction agitation avec une cellule d'effort et une bille tournante

Publication

EP 1754564 A1 20070221 (EN)

Application

EP 06254271 A 20060815

Priority

US 16173105 A 20050815

Abstract (en)

A portable multi-axis load confirmation tool (10) having a rotating ball (46) on the end thereof follows a three-dimensional weld program path therewith. The ball (46) reacts to an internal load cell (24) for verifying weld program path dynamics before an actual program is run with friction stir welding tools. The load cell (24) is connected to instrumentation electronics converting a load cell signal to a digital readout and comparing the load cell signal to weld program load requirements. The tool (10) integrates into a tool holder loaded on a friction stir welding spindle for simulating an actual friction stir welding tool.

IPC 8 full level

B23K 20/12 (2006.01); **B23K 31/12** (2006.01); **B23Q 7/00** (2006.01); **G01L 1/00** (2006.01); **G05B 19/25** (2006.01)

CPC (source: EP US)

B23K 20/1245 (2013.01 - EP US); **B23K 31/12** (2013.01 - EP US); **G05B 19/401** (2013.01 - EP US); G05B 2219/37222 (2013.01 - EP US); G05B 2219/45146 (2013.01 - EP US)

Citation (search report)

- [YA] EP 1189124 A1 20020320 - FARO TECH INC [US]
- [Y] JP H05126556 A 19930521 - MITUTOYO CORP
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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

EP 1754564 A1 20070221; **EP 1754564 B1 20081029**; AT E412486 T1 20081115; DE 602006003382 D1 20081211; US 2007034671 A1 20070215; US 2009039139 A1 20090212; US 7451661 B2 20081118; US 7571654 B2 20090811

DOCDB simple family (application)

EP 06254271 A 20060815; AT 06254271 T 20060815; DE 602006003382 T 20060815; US 16173105 A 20050815; US 24902808 A 20081010